3160B

What is claimed is:

1. An adhesive comprising; a resin selected from the group of phenol formaldehyde, urea formaldehyde, melamine formaldehyde or a blend thereof including from about 0.1 to about 20 weight percent, based on the resin weight, of a water soluble polymer.

2. An adhesive according to claim 1, wherein said water soluble polymer includes at least 5 weight percent of repeating units from free radically polymerizing 2-acrylamido-2-methylpropane sulfonic acid or its salt, said salt having a cation selected from the group consisting of alkali metal cations; alkaline earth cations; cations of the following transition metals: Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, or Zn; or ammonium cations of the following formula: $R_1R_2R_3R_4N^+$,wherein $R_1$, $R_2$, $R_3$ and $R_4$ are independently hydrogen or hydrocarbyl groups.

3. An adhesive according to claim 1, wherein said water soluble polymer includes at least 5 weight percent of repeating units from free radically polymerizing 2-acrylamido-2-methylpropane sulfonic acid or its sodium or ammonium salt, wherein $R_1$, $R_2$, $R_3$ and $R_4$ are hydrogen.

4. An adhesive according to claim 2, wherein said water soluble polymer includes from about 10 to about 80 weight percent of repeating units from free radically polymerizing sodium-2-acrylamido-2methylpropane sulfonate.

5. An adhesive according to claim 1, wherein said resin is sufficiently compatible with water such that water can be used as a solvent to dilute its viscosity.

6. An adhesive according to claim 1, used to adhere one or more cellulose based materials to another cellulose based material.

7. An adhesive according to claim 6, wherein at least one of said cellulose based materials comprises a cellulose based material including wood chips, wood flour, ground wood, or wood fibers.

8. An adhesive according to claim 1, wherein said water soluble polymer increases the sag resistance of a one-eighth inch diameter bead of said adhesive by at least 10 percent over the normal working time of the adhesive.

9. An adhesive according to claim 1, wherein said water soluble polymer increases the open time (time during which effective bonds between two substrates are easily made) of the adhesive by at least 10 percent over the normal working time of the adhesive.

10. An adhesive according to claim 1, wherein said water soluble polymer decreases the evaporation rate of water from a one-eighth inch diameter bead of said adhesive during the first 4 minutes after formation into a bead by at least 20 percent.

11. An adhesive according to claim 1, wherein said water soluble polymer decreases the rate of water absorption into the wood substrate from a one-eighth inch diameter bead of said adhesive during the first 4 minutes after formation into a bead by at least 20 percent.

12. An adhesive according to claim 1, further including at least 0.1 weight percent of a cationic surfactant and at least 0.1 weight percent of an anionic surfactant.

13. An adhesive according to claim 7, wherein said cellulose based material comprised of at least 90 weight percent of ligno cellulosic material.

14. An adhesive according to claim 13, wherein said ligno cellulosic material is formed into a particle board, chipboard, oriented strand board, medium density fiberboard, plywood, or paneling.